



PATENT
Atty. Dkt. AMAT/5335.Y1/CPI/COPPER/PJS

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

MAIL STOP RCE
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

CERTIFICATE UNDER 37 CFR 1.10

I hereby certify that this correspondence and the documents referred to as attached therein are being deposited on April 1, 2005 with the United States Postal Service in an envelope as "Express Mail Post Office to Addressee," mailing label No. EV349852245US addressed to: Mail Stop RCE, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

4/1/05 Renee L. Schaefer

Date Signature

INFORMATION DISCLOSURE STATEMENT

The Applicants, and the Attorney who signs below on the basis of the information supplied by the inventor and the information in his file, submit herewith patents, publications, or other information of which they are aware, which may be material to the examination of this application and in respect of which there may be a duty to disclose in accordance with 37 CFR § 1.56.

While the information submitted in this Information Disclosure Statement may be material pursuant to 37 CFR § 1.56, it is not intended to constitute an admission that any patent, publication, or other information referred to therein is prior art for this invention unless specifically designated as such.

In accordance with 37 CFR § 1.97, this Information Disclosure Statement is not to be construed as a representation that a search has been made or that no other possibly material information as defined under 37 CFR § 1.56(a) exists.

The patents and/or publications submitted herewith are set forth on the attached Form PTO-1449.

If the sum of \$180.00 is due under 37 CFR § 1.17(p) pursuant to § 1.97, the Commissioner is hereby authorized to charge this fee, and any other fee necessary to make this submission timely, to the Deposit Account No. 20-0782/AMAT/5335.Y1/KMT.

Respectfully submitted,



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Substitute for form 1449A/PTO

INFORMATION DISCLOSURE
STATEMENT BY APPLICANT

(Use as many sheets as necessary)

Application Number	10/625,480
Filing Date	July 22, 2003
First Named Inventor	Chen, et al.
Group Art Unit	2818
Examiner Name	Phuc T. Dang
Attorney Docket Number	AMAT/5335.Y1/CPI/COPPER/PJS

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Submission Date

April 1, 2005

U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code ² (if known)			
	A1	US-4486487	12/4/1984	Suntola, et al.	
	A2	US-5306666	4/26/1994	Izumi, et al.	
	A3	US-5374570	12/20/1994	Nasu, et al.	
	A4	US-5503875	4/2/1996	Imai, et al.	
	A5	US-5526244	6/11/1996	Bishop	
	A6	US-5711811	1/27/1998	Suntola, et al.	
	A7	US-5916365	6/29/1999	Sherman	
	A8	US-6015590	1/18/2000	Suntola, et al.	
	A9	US-6107208	8/22/2000	Cheng, et al.	
	A10	US-6139700	10/31/2000	Kang, et al.	
	A11	US-6174809	1/16/2001	Kang, et al.	
	A12	US-6197683	3/6/2001	Kang, et al.	
Examiner	A13	US-6200893	3/12/2001	Sneh	
Examiner	A14	US-6203613	3/20/2001	Gates, et al.	
Examiner	A15	US-6207302	3/27/2001	Sugiura, et al.	
Examiner	A16	US-6207487	3/27/2001	Kim, et al.	
Examiner	A17	US-6270572	8/7/2001	Kim, et al.	
Examiner	A18	US-6284646	9/4/2001	Leem	
Examiner	A19	US-6287965	9/11/2001	Kang, et al.	
Examiner	A20	US-6305314	10/23/2001	Sneh, et al.	
Examiner	A21	US-6342277	1/29/2002	Sherman	
Examiner	A22	US-6348376	2/19/2002	Lim, et al.	
Examiner	A23	US-6358829	3/19/2002	Yoon, et al.	
Examiner	A24	US-6372598	4/16/2002	Kang, et al.	
Examiner	A25	US-6391785	5/21/2002	Satta, et al.	
Examiner	A26	US-6391803	5/21/2002	Kim, et al.	
Examiner	A27	US-6399491	6/4/2002	Jeon, et al.	
Examiner	A28	US-6416577	7/9/2002	Suntola, et al.	

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Substitute for form 1449A/PTO				Application Number	10/625,480
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				Attorney Docket Number	AMAT/5335.Y1/CPI/COPPER/PJS
Sheet	2	of	9	Submission Date	April 1, 2005

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		Number-Kind Code ² (if known)			
	A29	US-6416822	7/9/2002	Chiang, et al.	
	A30	US-6428859	8/6/2002	Chiang, et al.	
	A31	US-6451119	9/17/2002	Sneh, et al.	
	A32	US-6451695	9/17/2002	Sneh	
	A33	US-6458701	10/1/2002	Chae, et al.	
	A34	US-6468924	10/22/2002	Lee, et al.	
	A35	US-6475276	11/5/2002	Elers, et al.	
	A36	US-6475910	11/5/2002	Sneh	
	A37	US-6478872	11/12/2002	Chae, et al.	
	A38	US-6482733	11/19/2002	Raaijmakers, et al.	
	A39	US-6495461	12/17/2002	Tsubouchi, et al.	
	A40	US-6511539	1/28/2003	Raaijmakers	
	A41	US-6534395	3/18/2003	Werkhoven, et al.	
	A42	US-6548424	4/15/2003	Putkonen	
	A43	US-6551929	4/22/2003	Kori, et al.	
	A44	US-6569501	5/27/2003	Chiang, et al.	
	A45	US-6596602	7/22/2003	Iizuka, et al.	
	A46	US-6596643	7/22/2003	Chen, et al.	
	A47	US-6599572	7/29/2003	Saanila, et al.	
	A48	US-6607976	8/19/2003	Chen, et al.	
	A49	US-6620670	9/16/2003	Song, et al.	
	A50	US-6620723	9/16/2003	Byun, et al.	
	A51	US-6630201	10/7/2003	Chiang, et al.	
	A52	US-6630413	10/7/2003	Todd	
	A53	US-6632279	10/14/2003	Ritala, et al.	
	A54	US-6660660	12/9/2003	Haukka, et al.	
	A55	US-6686271	2/3/2004	Raaijmakers, et al.	
	A56	US-6803272	10/12/2004	Halliyal, et al.	

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Application Number

10/625,480

Filing Date

July 22, 2003

First Named Inventor

Chen, et al.

Group Art Unit

2818

Examiner Name

Phuc T. Dang

Attorney Docket Number

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		Number-Kind Code ² (if known)			
	A57	US-20010000866	5/10/2001	Sneh, et al.	
	A58	US-20010002280	5/31/2001	Sneh	
	A59	US-20010009140	7/26/2001	Bondestam, et al.	
	A60	US-20010009695	7/26/2001	Saanila, et al.	
	A61	US-20010024387	9/27/2001	Raaijmakers, et al.	
	A62	US-20010024871	9/27/2001	Yagi	
	A63	US-20010028924	10/11/2001	Sherman	
	A64	US-20010034123	10/25/2001	Jeon, et al.	
	A65	US-20010041250	11/15/2001	Werkhoven, et al.	
	A66	US-20010050039	12/13/2001	Park, et al.	
	A67	US-20010054730	12/27/2001	Kim, et al.	
	A68	US-20020000598	1/3/2002	Kang, et al.	
	A69	US-20020007790	1/24/2002	Park	
	A70	US-20020016084	2/7/2002	Todd	
	A71	US-20020021544	2/21/2002	Cho, et al.	
	A72	US-20020031618	3/14/2002	Sherman	
	A73	US-20020041931	4/11/2002	Suntola, et al.	
	A74	US-20020047151	4/25/2002	Kim, et al.	
	A75	US-20020048635	4/25/2002	Kim, et al.	
	A76	US-20020052097	5/2/2002	Park	
	A77	US-20020060363	5/23/2002	Xi, et al.	
	A78	US-20020068458	6/6/2002	Chiang, et al.	
	A79	US-20020073924	6/20/2002	Chiang, et al.	
	A80	US-20020074588	6/20/2002	Lee	
	A81	US-20020076481	6/20/2002	Chiang, et al.	
	A82	US-20020076507	6/20/2002	Chiang, et al.	
	A83	US-20020076508	6/20/2002	Chiang, et al.	
	A84	US-20020081844	6/27/2002	Jeon, et al.	

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Substitute for form 1449A/PTO		Application Number	10/625,480
INFORMATION DISCLOSURE STATEMENT BY APPLICANT		Filing Date	July 22, 2003
(Use as many sheets as necessary)		First Named Inventor	Chen, et al.
		Group Art Unit	2818
		Examiner Name	Phuc T. Dang
		Attorney Docket Number	AMAT/5335.Y1/CPI/COPPER/PJS
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		Submission Date	April 1, 2005

U.S. PATENT DOCUMENTS

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		Number-Kind Code ² (if known)			
A85		US-20020086111	7/4/2002	Byun, et al.	
A86		US-20020086507	7/4/2002	Park, et al.	
A87		US-20020094689	7/11/2002	Sandhu, et al.	
A88		US-20020104481	7/18/2002	Bachhofer, et al.	
A89		US-20020106536	8/8/2002	Lee, et al.	
A90		US-20020117399	8/29/2002	Chen, et al.	
A91		US-20020135071	9/26/2002	Kang, et al.	
A92		US-20020144655	10/10/2002	Chiang, et al.	
A93		US-20020144657	10/10/2002	Chiang, et al.	
A94		US-20020146511	10/10/2002	Chiang, et al.	
A95		US-20020155722	10/24/2002	Satta, et al.	
A96		US-20020162506	11/7/2002	Sneh, et al.	
A97		US-20020164421	11/7/2002	Chiang, et al.	
A98		US-20020164423	11/7/2002	Chiang, et al.	
A99		US-20020172768	11/21/2002	Endo, et al.	
A100		US-20020177282	11/28/2002	Song	
A101		US-20020182320	12/12/2002	Leskela, et al.	
A102		US-20020187256	12/12/2002	Elers, et al.	
A103		US-20020187631	12/12/2002	Kim, et al.	
A104		US-20020197402	12/26/2002	Chiang, et al.	
A105		US-20020197863	12/26/2002	Mak, et al.	
A106		US-20030013300	1/16/2003	Byun	
A107		US-20030013320	1/16/2003	Kim, et al.	
A108		US-20030031807	2/13/2003	Elers, et al.	
A109		US-20030032281	2/13/2003	Werkhoven, et al.	
A110		US-20030042630	3/6/2003	Babcoke, et al.	
A111		US-20030049931	3/13/2003	Byun, et al.	
A112		US-20030049942	3/13/2003	Haukka, et al.	

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10/625,480

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First Named Inventor

Chen, et al.

Group Art Unit

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	A113	US-20030054631	3/20/2003	Raaijmakers, et al.	
	A114	US-20030072884	4/17/2003	Zhang, et al.	
	A115	US-20030072975	4/17/2003	Shero, et al.	
	A116	US-20030082296	5/1/2003	Elers, et al.	
	A117	US-20030082300	5/1/2003	Todd, et al.	
	A118	US-20030082301	5/1/2003	Chen, et al.	
	A119	US-20030082307	5/1/2003	Chung, et al.	
	A120	US-20030089308	5/15/2003	Raaijmakers, et al.	
	A121	US-20030089942	5/15/2003	Bhattacharyya	
	A122	US-20030101927	6/5/2003	Raaijmakers	
	A123	US-20030106490	6/12/2003	Jallepally, et al.	
	A124	US-20030108674	6/12/2003	Chung, et al.	
	A125	US-20030116087	6/26/2003	Nguyen, et al.	
	A126	US-20030116804	6/26/2003	Visokay, et al.	
	A127	US-20030124262	7/3/2003	Chen, et al.	
	A128	US-20030129826	7/10/2003	Werkhoven, et al.	
	A129	US-20030134508	7/17/2003	Raaijmakers, et al.	
	A130	US-20030143328	7/31/2003	Chen, et al.	
	A131	US-20030143839	7/31/2003	Raaijmakers, et al.	
	A132	US-20030143841	7/31/2003	Yang, et al.	
	A133	US-20030160277	8/28/2003	Bhattacharyya	
	A134	US-20030165615	9/4/2003	Aaltonen, et al.	
	A135	US-20030166318	9/4/2003	Zheng, et al.	
	A136	US-20030168750	9/11/2003	Basceri, et al.	
	A137	US-20030172872	9/18/2003	Thakur, et al.	
	A138	US-20030173586	9/18/2003	Moriwaki, et al.	
	A139	US-20030185980	10/2/2003	Endo	
	A140	US-20030186495	10/2/2003	Saanila, et al.	

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A141		US-20030186561	10/2/2003	Law, et al.	
A142		US-20030189232	10/9/2003	Law, et al.	
A143		US-20030190423	10/9/2003	Yang, et al.	
A144		US-20030190497	10/9/2003	Yang, et al.	
A145		US-20030190804	10/9/2003	Glenn, et al.	
A146		US-20030194853	10/16/2003	Jeon	
A147		US-20030198754	10/23/2003	Xi, et al.	
A148		US-20030205729	11/6/2003	Basceri, et al.	
A149		US-20030213560	11/20/2003	Wang, et al.	
A150		US-20030215570	11/20/2003	Seutter, et al.	
A151		US-20030216981	11/20/2003	Tillman	
A152		US-20030232554	12/18/2003	Blum, et al.	
A153		US-20030235961	12/25/2003	Metzner, et al.	
A154		US-20040009307	1/15/2004	Koh, et al.	
A155		US-20040013803	1/22/2004	Chung, et al.	
A156		US-20040018304	1/29/2004	Chung, et al.	
A157		US-20040018723	1/29/2004	Chung, et al.	
A158		US-20040018747	1/15/2004	Visokay, et al.	
A159		US-20040033698	2/19/2004	Lee, et al.	
A160		US-20040043630	3/4/2004	Vaarstra, et al.	

FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁶
		Country Code ³ -Number ⁴ -Kind Code ⁵ (if known)				
B1		EP 1 167 569	1/2/2002	IPS LIMITED		
B2		GB 2 355 727	5/2/2001	SAMSUNG ELECTRONICS CO., LTD		
B3		JP 07-300649	11/14/1995	KOBE STEEL LTD		
B4		JP 01-143221	6/5/1989	NEC CORP		
B5		JP 02-246161	10/1/1990	FUJITSU LTD		

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Substitute for form 1449A/PTO		Application Number	10/625,480		
		Filing Date	July 22, 2003		
		First Named Inventor	Chen, et al.		
		Group Art Unit	2818		
		Examiner Name	Phuc T. Dang		
		Attorney Docket Number	AMAT/5335.Y1/CPI/COPPER/PJS		
Sheet	7	of	9	Submission Date	April 1, 2005

FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	Foreign Patent Document Country Code ³ -Number ⁴ -Kind Code ⁵ (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁶
	B6	JP 10-308283	11/17/1998	DENSO CORP (US)		
	B7	JP 2000-178735	6/27/2000			
	B8	JP 2000-31387	1/28/2000	FUJI ELECTRIC CO LTD		
	B9	JP 2000-58777	2/25/2000	SAMSUNG ELECTRONICS CO., LTD		
	B10	JP 2001-111000	4/20/2001			
	B11	JP 2001-172767	6/18/2002	ASM MICROCHEMISTRY OY		
	B12	JP 2001-220294	8/14/2001	DENSO CORP		
	B13	JP 2001-254181	9/18/2001	TOKYO ELECTRON LTD		
	B14	WO 00/15865	3/23/2000	ASM MICROCHEMISTRY LTD		
	B15	WO 00/16377	3/23/2000	GENITECH CO., LTD.		
	B16	WO 00/54320	9/14/2000	GENUS, INC.		
	B17	WO 00/63957	10/26/2000	GENITECH CO., LTD.		
	B18	WO 00/79576	12/28/2000	GENITECH INC.		
	B19	WO 01/15220	3/1/2001	ASM AMERICA, INC.		
	B20	WO 01/17692	3/15/2001	ASM AMERICA, INC.		
	B21	WO 01/27346	4/19/2001	ASM MICROCHEMISTRY OY		
	B22	WO 01/27347	4/19/2001	ASM MICROCHEMISTRY OY		
	B23	WO 01/29280	4/26/2001	ASM AMERICA, INC.		
	B24	WO 01/29891	4/26/2001	ASM AMERICA, INC.		
	B25	WO 01/29893	4/26/2001	ASM AMERICA, INC.		
	B26	WO 01/66832	9/13/2001	ASM AMERICA, INC.		
	B27	WO 02/01628	1/3/2002	APPLIED MATERIALS, INC.		
	B28	WO 02/45167	6/6/2002	ASM MICROCHEMISTRY OY		
	B29	WO 02/45871	6/13/2002	ANGSTROM SYSTEMS, INC.		
	B30	WO 02/67319	8/29/2002	ASM MICROCHEMISTRY OY		
	B31	WO 96/17107	6/6/1996	MIKROKEMIA OY		
	B32	WO 98/51838	11/19/1998	APPLIED MATERIALS, INC.		

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Substitute for form 1449B/PTO		Application Number	10/625,480	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT		Filing Date	July 22, 2003	
		First Named Inventor	Chen, et al.	
		Group Art Unit	2818	
		Examiner Name	Phuc T. Dang	
		Attorney Docket Number	AMAT/5335.Y1/CPI/COPPER/PJS	
Sheet	8	of	9	Submission Date
April 1, 2005				

FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁶
		Country Code ³ -Number ⁴ -Kind Code ⁵ (if known)				
	B33	WO 99/01595	1/14/1999	NESTE OY		
	B34	WO 99/29924	6/17/1999	NESTE OYJ		

NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published	T ²
	C1	George, et al. "Surface Chemistry for Atomic Layer Growth," J. Phys. Chem. 1996, 100, pp. 13121-13131	
	C2	Hwang, et al. "Nanometer-Size α -PbO ₂ -type TiO ₂ in Garnet: A Thermobarometer for Ultrahigh-Pressure Metamorphism," Science Vo. 288 (14 Apr 2000)	
	C3	Klaus, et al. "Atomic Layer Deposition of SiO ₂ Using Catalyzed and Uncatalyzed Self-Limiting Surface Reactions," Surface Review and Letters, Vol. 6, Nos. 3 & 4 (1999) 435-448	
	C4	Lee, et al. "Cyclic Technique for the Enhancement of Highly Oriented Diamond Film Growth," Thin Solid Films 303 (1997) pp. 264-269	
	C5	Martensson, et al. "Use of Atomic Layer Epitaxy for Fabrication of Si/TiN/Cu Structures," J. Vac. Sci. & Tech. B, Vol. 17, No. 5, (Sept. 1999) pp.2122-2128	
	C6	Min, et al. "Atomic Layer Deposition of TiN Thin Films by Sequential Introduction of Ti Precursor and NH ₃ ," Mat. Res. Soc. Symp. Proc. Vol. 514 (1998)	
	C7	Min, et al. "Chemical Vapor Deposition of Ti-Si-N Films with Alternating Source Supply," Mat. Res. Soc. Symp. Proc. Vol. 564 (1999) pp. 207-210	
	C8	Min, et al. "Metal-organic Atomic-layer Deposition of Titanium-silicon-nitride Films," Applied Physics Letters, Vol. 75, No. 11 (11 Sep 1999) pp. 1521-1523	
	C9	Niinisto, et al. "Synthesis of Oxide Thin Films and Overlays by Atomic Layer Epitaxy for Advanced Applications," Materials Science and Engineering B41 (1996) 23-29	
	C10	Proceedings of the ICEEE 1998 International Interconnect Technology Conference – San Francisco, California, June 1-3, 1998	
	C11	Ritala, et al. "Atomic Force Microscopy Study of Titanium Dioxide Thin Films Grown by Atomic Layer Epitaxy," Thin Solid Films, Vol. 228, No. 1-2 (15 May 1993), pp.32-35	
	C12	Ritala, et al. "Atomic Layer Epitaxy Growth of TiN Thin Films From TiI ₄ and NH ₃ ," J. Electrochem. Soc., Vol. 145, No. 8 (Aug, 1998) pp. 2914-20	
	C13	Ritala, et al. "Atomic Layer Epitaxy Growth of TiN Thin Films," J. Electrochem. Soc., Vol. 142, No. 8, August 1995	

Examiner	Date Considered
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<p>Substitute for form 1449B/PTO</p> <p>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</p> <p><i>(Use as many sheets as necessary)</i></p>			Application Number	10/625,480	
			Filing Date	July 22, 2003	
			First Named Inventor	Chen, et al.	
			Group Art Unit	2818	
			Examiner Name	Phuc T. Dang	
			Attorney Docket Number	AMAT/5335.Y1/CPI/COPPER/PJS	
Sheet	9	of	9	Submission Date	April 1, 2005

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